



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,169	07/30/2003	William W. Craig	IL-11099	1900

7590 09/22/2005

James S. Tak
Assistant Laboratory Counsel
Lawrence Livermore National Laboratory
P.O. Box 808, L-703
Livermore, CA 94551

EXAMINER

TANINGCO, MARCUS H

ART UNIT	PAPER NUMBER
----------	--------------

2878

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AKC

Office Action Summary

Application No.

10/632,169

Applicant(s)

CRAIG ET AL.

Examiner

Marcus H. Taningco

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-123 is/are pending in the application.
- 4a) Of the above claim(s) 1-79 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 80-91, 94-119, 122 and 123 is/are rejected.
- 7) ☒ Claim(s) 92, 93, 120 and 121 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/26/04, 12/17/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of Group III, claims 80-123 in the reply filed on 6/27/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 80, 82-84, 89, 90, 111, 112, 117, and 118 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "small" in claim 80 is a relative term which renders the claim indefinite. The term "small" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Re claim 82, a single claim which claims both an apparatus and a method of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

Art Unit: 2878

Re claims 83, 84, 89, 90, 111, 112, 117, and 118, apparatus claims must be structurally distinguished from the prior art. Claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15, USPQ2d 1525, 1528, (Fed. Cir. 1990). See MPEP 2114. Furthermore, the limitations in the above cited claims merely describe inherent properties of defective pixels and/or defective pixel regions.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 82-84 are rejected under 35 U.S.C. 101 because the claims are directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

Claims 83 and 84 are rejected based on their dependencies.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

Art Unit: 2878

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 80-84, 87-91, 94-97, 100, 101, 103, 104, 106, 107, 109, 110, 115-119, 122, and 123 are rejected under 35 U.S.C. 102(e) as being anticipated by Gagnon et al. (US 6,694,172).

Re claims 80 and 94, Gagnon discloses a room temperature (Col. 2, 39-40) CdZnTe (Col. 2, 31) gamma detector **20** comprising a pixel array **18** wherein defective pixels are disabled electronically (Fig. 3; Col. 6, 39-41).

Re claim 81, Gagnon discloses a readout **42** having a plurality of channels connected to the pixels (Col. 5, 65-67; Col. 6, 1).

Re claim 82, Gagnon discloses disconnecting or disconnecting individual defective pixels (Col. 6, 39-41).

Re claim 87, Gagnon discloses means for disregarding data obtained from defective pixels (Col. 7, 39-41).

Re claim 88, Gagnon discloses an analyzing circuit **50** for setting a threshold level to detect defective pixels (Col. 6, 53-56).

Re claim 91, Gagnon discloses means for adjusting the gain of each pixel to correct for variations (Col. 7, 55-58).

Re claim 95, Gagnon discloses a CdZnTe crystal, known for its low spectral resolution, as a single crystal (Col. 5, 1-4).

Re claims 96 and 122, Gagnon discloses a room temperature (Col. 2, 39-40) CdZnTe (Col. 2, 31) gamma detector **20** comprising a pixel array **18** wherein defective pixels are disabled electronically (Fig. 3; Col. 6, 39-41) and communications means **82** for communicating over a communications network (Fig. 1).

Re claim 97, Gagnon discloses the claimed invention. Furthermore, it has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Re claim 100, the detector array **18** is attachable to an object **30** independent of said communications means **82**.

Re claims 101, 103, and 104, Gagnon discloses the claimed invention. Furthermore, it has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Re claim 106, Gagnon discloses analyzing circuit **50** for analyzing detection data.

Re claim 107, Gagnon discloses display means **82** for displaying detection data.

Re claim 109, Gagnon discloses a readout **42** having a plurality of channels connected to the pixels (Col. 5, 65-67; Col. 6, 1).

Re claim 110, Gagnon discloses disabling or disconnecting individual defective pixels (Col. 6, 39-41).

Re claim 115, Gagnon discloses means for disregarding data obtained from defective pixels (Col. 7, 39-41).

Re claim 116, Gagnon discloses an analyzing circuit **50** for setting a threshold level to detect defective pixels (Col. 6, 53-56).

Re claim 119, Gagnon discloses means for adjusting the gain of each pixel to correct for variations (Col. 7, 55-58).

Re claim 123, Gagnon discloses a CdZnTe crystal, known for its low spectral resolution, as a single crystal (Col. 5, 1-4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 98, 99, and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gagnon et al.

Re claims 98 and 99, Gagnon discloses the claimed radiation detection system comprising communication means **82** and a radiation sensor **18**, but fails to explicitly teach how the communication means **82** is connected to the sensor **18**. However, it would have been obvious to one with ordinary skill in the art at the time the invention was made to connect the

Art Unit: 2878

communication means **82** to the sensor **18** by either wires or via wireless link since it was known in the art that the transmission of data could be performed using wires or via wireless link.

Re claim 108, Gagnon discloses communications means **82** but fails to teach a mobile wireless communications device. Gagnon does, however, disclose that the communications device may be other human-readable display device (Col. 9, 7-9), which may include a laptop PC comprising a modem as interpreted by the Examiner. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the communications means taught by Gagnon to include a mobile wireless communications device, such as a laptop PC, for portability, mobility, and convenience.

Claims 85, 86, 113, and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gagnon et al. in view of Spartiotis et al. (US 2003/0155516).

Re claims 85 and 113, Gagnon discloses the claimed invention but fails to specify the combination comprising an ASIC readout mounted on an interface board wherein the readout and the detector are connected to each other by interconnects on the interface board. Spartiotis discloses an ASIC readout **130** mounted on an interface board **170** wherein the readout **130** and the detector **90** are connected to each other by interconnects **220** (Fig. 5a). It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Gagnon with the combination taught by Spartiotis for the benefit of the potential for producing larger area imaging devices with improved image quality by reducing or minimizing the amount of imaging dead area in the device [0029].

Art Unit: 2878

Re claims 86 and 114, Gagnon and Spartiotis teach the claimed invention according to claims 85 and 113, but fail to specify the ASIC readout chip is a VLSI readout chip. In the field of endeavor, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a VLSI readout chip since it was known in the art that VLSI is simply the current level of computer microchip miniaturization and refers to microchips containing in the hundreds of thousands of transistors and that nearly all modern chips employ VLSI architectures.

Claims 102 and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gagnon et al. in view of Tashiro (US 6,559,452).

Re claims 102 and 105, Gagnon discloses the claimed invention except for transmitting data in real time. Tashiro teaches an image input apparatus for real time diagnosis. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Gagnon to transmit data in real time for the purpose of monitoring patients at a remote site in real time.

Allowable Subject Matter

Claims 92, 93, 120, and 121 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2878

Re claims 92, 93, 120, and 121, Gagnon discloses adjusting the gain, but fails to teach adjusting the gain as a function of the temperature measured by the temperature sensor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H. Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MT



ALBERT J. GAGLIARDI
PRIMARY EXAMINER